Reference No.: 70
Barite Hill/Nevada Goldfields
EPA ID No. SCN000407714

Hazardous Waste

This Web page contains a wealth of information on hazardous waste including:

What is a Hazardous Waste?

Hazardous waste is a waste with properties that make it dangerous or potentially harmful to human health or the environment. The universe of hazardous wastes is large and diverse. Hazardous wastes can be liquids, solids, contained gases, or sludges. They can be the by-products of manufacturing processes or simply discarded commercial products, like cleaning fluids or pesticides.

In regulatory terms, a RCRA hazardous waste is a waste that appears on one of the four hazardous wastes lists (F-list, K-list, P-list, or U-list), or exhibits at least one of four characteristics—ignitability, corrosivity, reactivity, or toxicity. Hazardous waste is regulated under the Resource Conservation and Recovery Act (RCRA) Subtitle C. For more information on the RCRA statute and links to the regulations, visit RCRA Laws and Regulations.

Listed Wastes

By definition, EPA determined that some specific wastes are hazardous. These wastes are incorporated into lists published by the Agency. These lists are organized into three categories:

- **The F-list** (non-specific source wastes). This list identifies wastes from common manufacturing and industrial processes, such as solvents that have been used in cleaning or degreasing operations. Because the processes producing these wastes can occur in different sectors of industry, the F-listed wastes are known as wastes from non-specific sources. Wastes included on the F-list can be found in the regulations at 40 CFR §261.31.
- **The K-list** (source-specific wastes). This list includes certain wastes from specific industries, such as petroleum refining or pesticide manufacturing. Certain sludges and wastewaters from treatment and production processes in these industries are examples of source-specific wastes. Wastes included on the K-list can be found in the regulations at 40 CFR §261.32.
- **The P-list and the U-list** (discarded commercial chemical products). These lists include specific commercial chemical products in an unused form. Some pesticides and some pharmaceutical products become hazardous waste when discarded. Wastes included on the P- and U-lists can be found in the regulations at 40 CFR §261.33.
- Hazardous Waste Listings - A User-Friendly Reference Document, Draft, March 2008 (PDF) (118 pp, 612K)

Characteristic Wastes

You will need Adobe Reader to view some of the files on this page. See EPA's PDF page to learn more.

Waste that does not meet any of the listings explained above may still be considered a hazardous waste if

exhibits one of the four characteristics defined in 40 CFR Part 261 Subpart C — ignitability (D001), corrosivity (D002), reactivity (D003), and toxicity (D004 - D043).

- **Ignitability** – Ignitable wastes can create fires under certain conditions, are spontaneously combustible, or have a flash point less than 60 °C (140 °F). Examples include waste oils and used solvents. For more details, see 40 CFR §261.21. Test methods that may be used to determine ignitability include the Pensky-Martens Closed-Cup Method for Determining Ignitability (Method 1010A) (PDF) (1 pg, 19K), the Setaflash Closed-Cup Method for Determining Ignitability (Method 1020B) (PDF) (1 pg, 17K) , and the Ignitability of Solids (Method 1030) (PDF) (13 pp, 116K).

- **Corrosivity** – Corrosive wastes are acids or bases (pH less than or equal to 2, or greater than or equal to 12.5) that are capable of corroding metal containers, such as storage tanks, drums, and barrels. Battery acid is an example. For more details, see 40 CFR §261.22 . The test method that may be used to determine corrosivity is the Corrosivity Towards Steel (Method 1110A) (PDF) (6 pp, 37K).

- **Reactivity** – Reactive wastes are unstable under "normal" conditions. They can cause explosions, toxic fumes, gases, or vapors when heated, compressed, or mixed with water. Examples include lithium-sulfur batteries and explosives. For more details, see 40 CFR §261.23 . There are currently no test methods available.

- **Toxicity** – Toxic wastes are harmful or fatal when ingested or absorbed (e.g., containing mercury, lead, etc.). When toxic wastes are land disposed, contaminated liquid may leach from the waste and pollute ground water. Toxicity is defined through a laboratory procedure called the Toxicity Characteristic Leaching Procedure (TCLP) (Method 1311) (PDF) (35 pp, 288K). The TCLP helps identify wastes likely to leach concentrations of contaminants that may be harmful to human health or the environment. For more details, see 40 CFR §261.24.

For more information on the rules and regulations pertaining to hazardous waste management, visit:

- Hazardous Waste Delisting

- Hazardous Waste Identification
  Note that some wastes that meet the RCRA definitions of solid and hazardous wastes are specifically excluded or exempted from the hazardous waste regulations (e.g., some oil and gas exploration and mining wastes and some hazardous wastes that can be recycled). For more information, see: RCRA Training Module - Solid and Hazardous Waste Exclusions (PDF) (29 pp, 87K).

- Hazardous Waste Recycling

- Imports/Exports (International Waste Activities)

- Land Disposal Restrictions

- Test Methods

- Waste Minimization and Pollution Prevention

Specific Wastes and Industries

This section provides links to information and regulations specific to certain hazardous wastes and industries:

- Chlorinated Aliphatics Production Waste

- Mercury Waste

- Military Munitions

- Paint Manufacturing Waste

- Phenol (Toxicological Review)

- Radioactive Mixed Waste
  - See also Storage, Treatment, Transportation, and Disposal of Mixed Waste for related rulemaking notices/information

For more information on specific wastes and industries, see Hazardous Waste Identification - Specific Waste Determinations/Exclusions.

Requirements for Hazardous Waste Generators and Transporters

Generators of and transporters of hazardous waste must meet specific requirements for handling, managing, and tracking waste:

- Generators
- Transporters

For related information, see the RCRA Training Module - RCRA Enforcement and Compliance (PDF) (16 pp, 44K).

Requirements for Treatment, Storage, and Disposal

Through RCRA, Congress directed EPA to create regulations to manage hazardous waste from "the cradle to the grave." Under this mandate, EPA developed strict requirements for all aspects of hazardous waste management including the treatment, storage, and disposal of hazardous waste. In addition to these federal requirements, states may develop more stringent requirements or requirements that are broader in scope than the federal regulations. For more information, see: RCRA Training Module - Introduction to Treatment, Storage, and Disposal Facilities (PDF) (20 pp, 94K).

For specific information on facility requirements, recordkeeping and reporting, hazardous waste storage units, and siting, see Treatment, Storage and Disposal of Hazardous Waste.

RCRA State Authorization

Through the State Authorization rulemaking process, EPA delegates the primary responsibility of implementing the RCRA hazardous waste program to individual states in lieu of EPA. The State Authorization Tracking System (StATS) provides the authorization status for all states.

For more information, see the RCRA Training Module - Introduction to State Programs (PDF) (15 pp, 50K).

Additional Resources

Managing Hazardous Waste in Your Community
This series of fact sheets provides an overview of EPA's hazardous waste management program under the Resource Conservation and Recovery Act (RCRA).

RCRA: Reducing Risk from Waste
This document provides an overview of the RCRA solid and hazardous waste regulations. It provides the history of RCRA, the role of EPA and the states, and hazardous waste definitions and management requirements, including the roles of generators, transporters, and treatment, storage, and disposal facilities. The document also presents information on hazardous waste minimization, and covers municipal and industrial solid waste as well.

RCRA Orientation Manual
This multi-chapter document provides introductory information on the solid and hazardous waste management programs under RCRA. Designed for EPA and state staff, members of the regulated community, and the general public who wish to better understand RCRA, this document constitutes a review of the RCRA program and is not intended as a substitute for the RCRA stature or its implementing regulations.

RCRA Training Modules
The RCRA Call Center training modules provide an overview of specific regulatory topics including air emissions standards, hazardous waste recycling, exclusions, financial assurance, hazardous waste storage units, and many others. These modules are useful resources for people wishing to gain a general understanding of RCRA, however, they are not comprehensive sources of regulatory information.

RCRA Frequent Questions Database
This database enables users to search frequently asked questions, or submit their own question or comment, on a variety of RCRA issues and topics.

RCRA Online
This database indexes thousands of letters, memoranda, publications, questions, and answers issued by EPA's Office of Solid Waste (OSW). These documents represent past EPA Headquarters interpretations of the RCRA regulations governing the management of solid, hazardous, and medical waste.

RCRA In Focus Series
This series of publications provides an overview of the RCRA regulations affecting specific industry sectors including dry cleaning, photo processing, printing, and others. RCRA In Focus presents the lifecycle of a typical waste for each industry and focuses on recycling and pollution prevention options. Each issue contains a table of RCRA requirements for small businesses and answers frequently asked questions.

Hazardous Waste Data
This Web page provides links to RCRAInfo and several other EPA data tracking systems for hazardous waste generation, storage, treatment, and disposal information. Also included are links to the National Biennial RCRA Hazardous Waste Documents and Data.